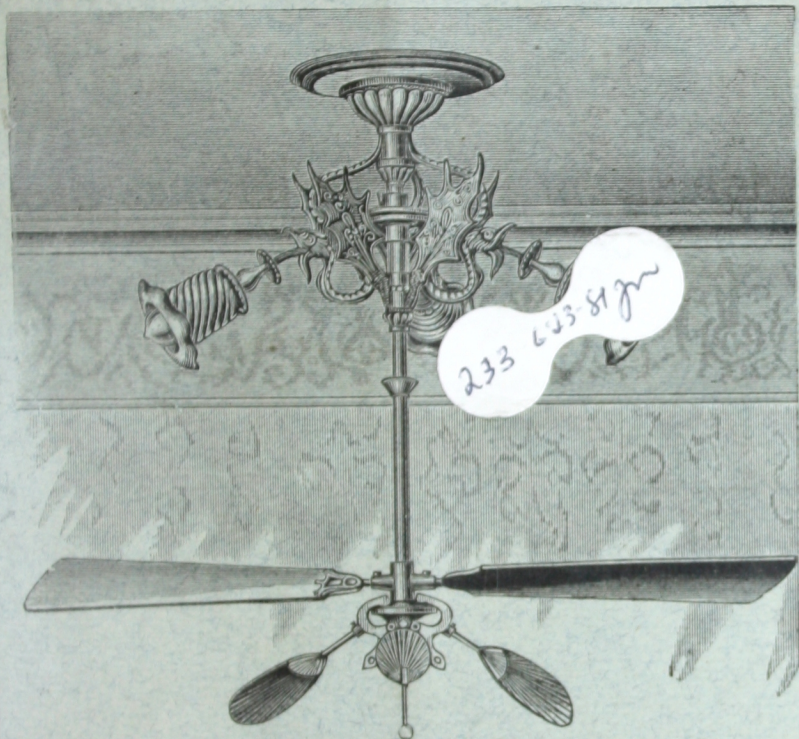


MURRAY'S PATENT

Rotating and Ventilating Fans,



MANUFACTURED AND FOR SALE BY THE

BACKUS WATER MOTOR CO.

ALSO MANUFACTURERS OF THE

CELEBRATED BACKUS WATER MOTOR.

Office and Works, Newark, N. J., U. S. A.

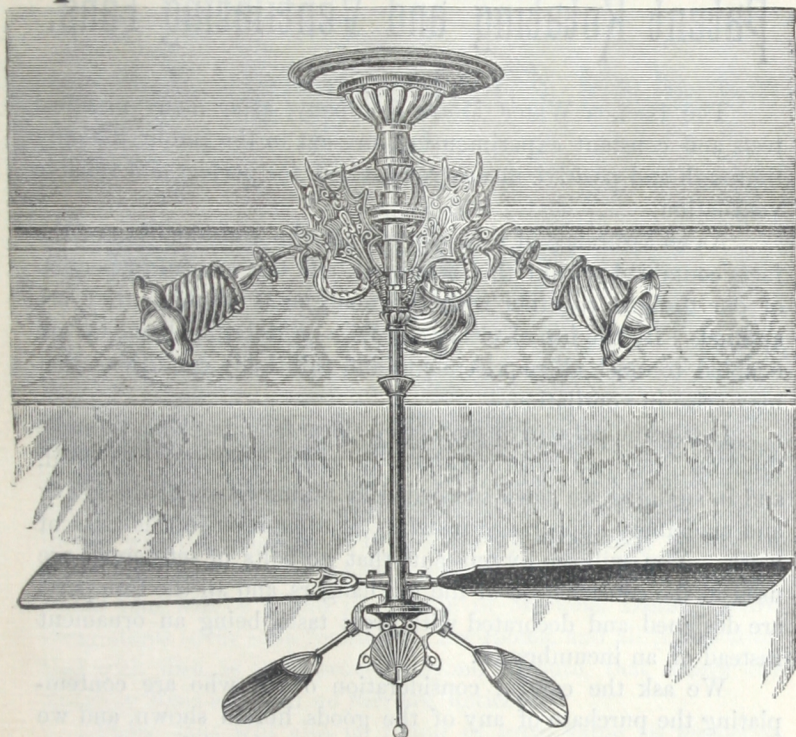
ONE BLOCK FROM MARKET STREET DEPOT, PENNA. R. R.

Patent

All Infringements will be Prosecuted.

(c.1886)

MURRAY'S PATENT
Rotating and Ventilating Fans,



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Office and Works, Newark, N. J., U. S. A.

ONE BLOCK FROM MARKET STREET DEPOT, PENNA. R. R.

Patented. All Infringements will be Prosecuted.

(c.1886)

The Only Perfect Ventilating Fans.

MURRAY'S
Patent Rotating and Ventilating Fans.

The Backus Water Motor Company, after many practical tests and constant experimenting, present to the public the only thorough and positive means yet devised for perfect and reliable ventilation.

As an assurance of this, we will ask the consideration of the facts contained within this catalogue, and the careful inspection of our designs, together with the many uses to which they are applied. By the use of either our Disc or Rotating Fans, we are enabled to meet all requirements and fulfill any conditions that may arise in ventilation.

Our principal aim in perfecting these fans, has been to make them an ornament in any position in which they may be placed, and in so doing we have succeeded in taking away all the heavy and machinery appearance which is so often seen in this class of work. You will see by our cuts that no bolts or set screws are used in the construction of the fan hangers, and all the iron parts are designed and decorated with great taste, being an ornament instead of an incumbrance.

We ask the careful consideration of all who are contemplating the purchase of any of the goods herein shown, and we shall be pleased to furnish estimates for ventilating in any of its branches, or give further information if desired.

Very respectfully,

BACKUS WATER MOTOR CO.

NOTICE.

Parties are hereby warned against using our designs for patterns, or in any way infringing our patents which we hold and propose to protect.

The Only Self-Regulating Fan.

Our Self-Regulating Clutch Mechanism

—FOR—

VARYING THE SPEED.

Our *self-regulating clutch mechanism* is the only perfect means known for starting and stopping any one fan, or increasing or decreasing the speed without shifting the belt or altering the speed of the engine or power which is used for driving them. In this way the fans can be driven slowly when only desired to keep out flies, or faster when a cool current of air is required. These fans will be found invaluable in Markets, Dining-rooms, Drug stores (over soda fountains), Bar-rooms, and all places troubled with flies, as it is proved beyond dispute, that where our Rotating Fans are used *no flies* are noticeable.

These fans will also be found of great value *in winter* as well as in summer, in places where an even distribution of air is desired, for removing smoke and gases and for giving perfect ventilation.

Our *Disc Fans* will be found of great value where quick drying is required, or where it is necessary to remove great quantities of smoke, steam, dust or hot air.

For further information on Disc Fans, note page 13.

OUR DESIGNS ARE BEAUTIFUL.



Counter Column Fan, also Ceiling Fan (Style B) and Guide Bracket.

The Only Perfect Column Fan.

The cut seen on the opposite page represents, as the name designates, one of our Column Fans and table castors combined, which is so made that it takes the place of a castor, as well as fulfilling the duty of a revolving fan. The castor remains stationary, but can be turned at will by simply touching it when desiring to remove a bottle. Thus, by doing away with the castor, you save just so much valuable space on the counter. The friction mechanism of this Column Fan (which is shown on page 9) is so made that it can be driven fast or slow at will, and in either direction, thus throwing the air up or down as desired, or it can be stopped completely, without in any way interfering with the others.

We furnish these Column Fans, *with or without* the castor; and also make them so that they can be placed on the floor instead of the counter when so desired.

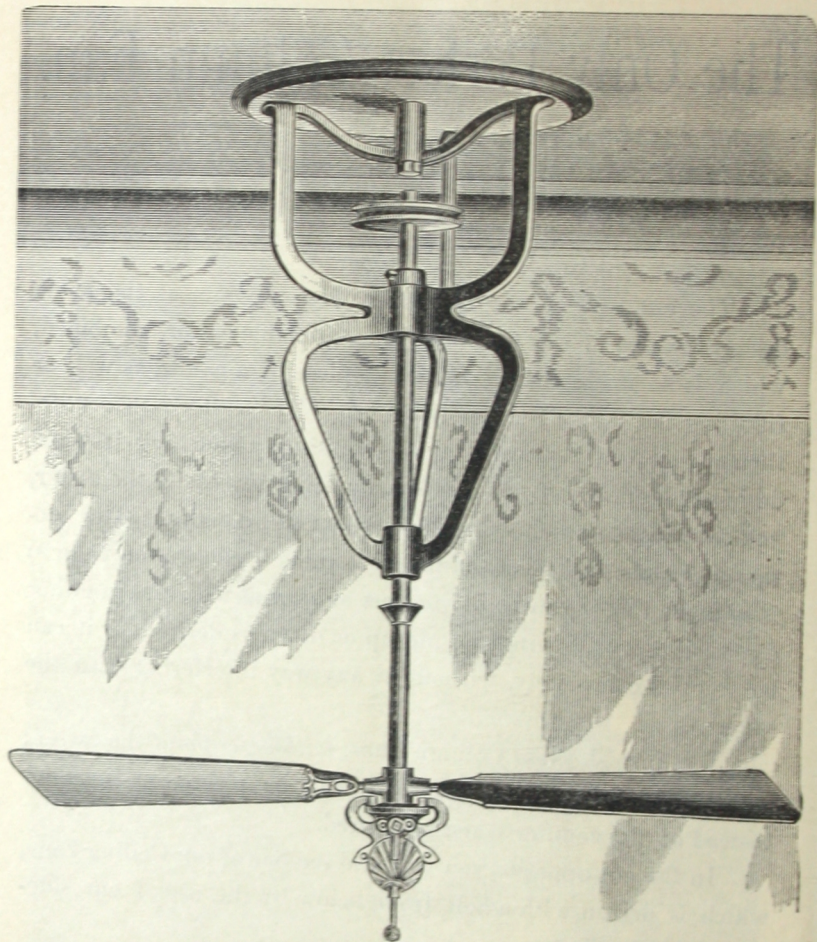
In the cut opposite you will also see one of our Ceiling Fans, which is driven with a belt from below by the use of our side-wall guide bracket.

This cut will give you a good idea of one of the many uses to which our patent fans can be put.

NOTE PRICE LIST ON PAGE 20.

THE BACKUS WATER MOTOR CO.

Our Prices are Bottom.



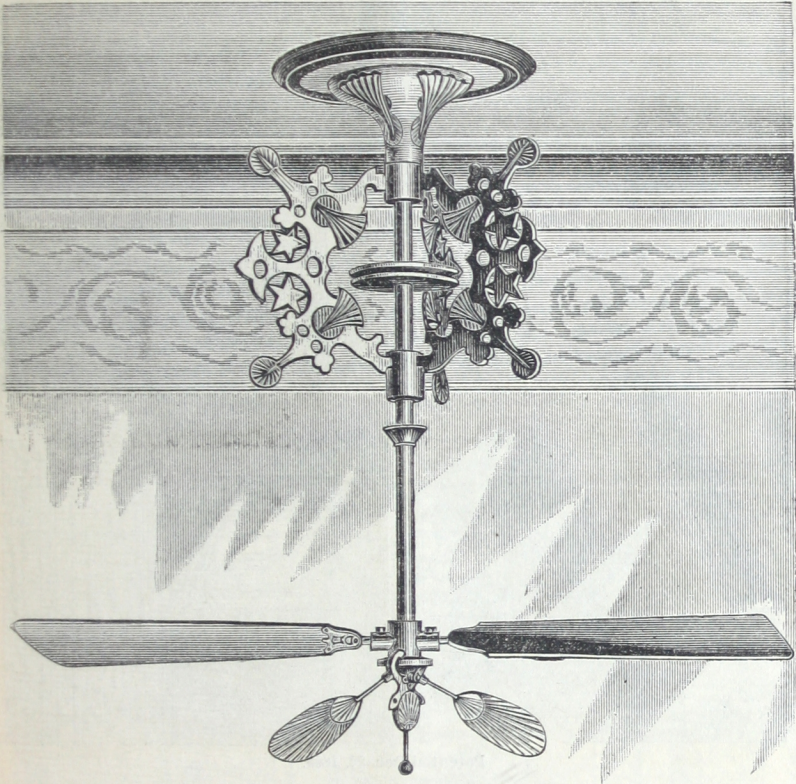
Patented January 19, 1886, and February 23, 1886.

STYLE "A."

The above style of fan and hanger are made for any height ceiling, and where a plain, neat fan is needed, at a low price, it cannot be surpassed. These are also furnished with our patent clutch mechanism, which is so desirable, as it enables the fan to be driven at any speed, or any one fan stopped without interfering with the others.

SEE PRICE LIST, PAGE 20.

Special Designs Made to Order.



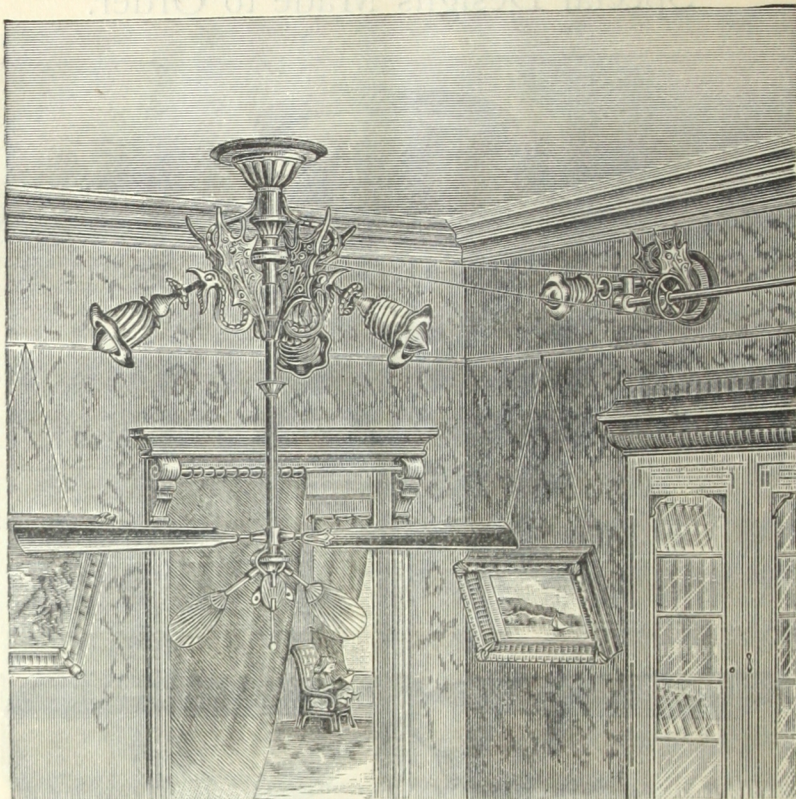
Patented Jan. 19, 1886.

STYLE "B," OR MIKADO.

The above cut represents one of our new and most attractive designs, being made with great care and expense, as you will see by the ornamentation and the design shown in the hanger, which shows a series of small fans throughout, and in other ways made ornamental, with particular adaptation to the use to which they are put. They can be used double, as shown in cut, or without the smaller fans, and when used double the smaller fans can be so set as to regulate the speed of the larger blades, thus making them automatic.

PRICE LIST, PAGE 20.

The Only Electricier Fan Made.



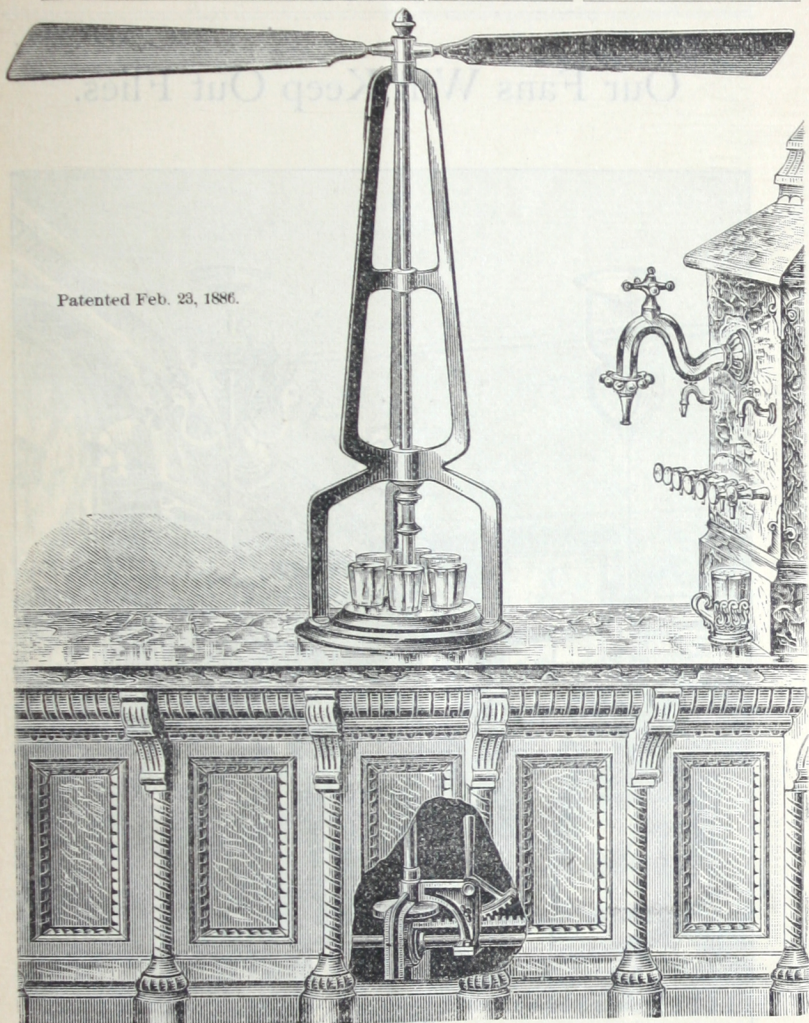
Patented Dec. 22, 1885.

STYLE "C."

This cut represents our Electricier Fan, also showing our fancy shaft hanger, which you will see are very handsome in design, the hangers being made of solid brass and the blades highly polished and decorated. We also furnish this with polished black walnut blades when desired, and we would particularly recommend it where the ornamentation is very handsome, or where parties are desirous of giving an attractive finish to the room, or handsome appearance to a bar or counter.

This chandelier hanger can be used equally *as well without* the electric light, or we can furnish chandeliers for gas, if preferred. It is supplied with our patent clutch mechanism, which makes it perfect in every respect, and we can also arrange it to be used without electric light or gas.

SEE PRICES, PAGE 20.



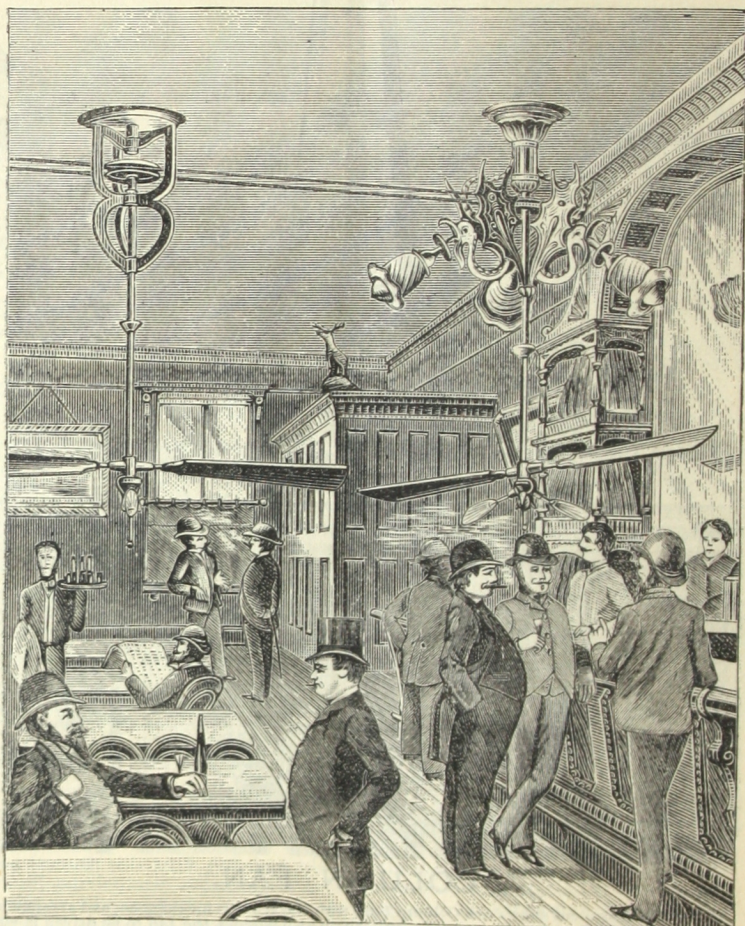
Patented Feb. 23, 1886.

COLUMN FAN.

The above cut shows our Column Fan, with the friction mechanism, and arrangement for driving the fan at various speeds, and which also enables the fan to be driven in either direction, thus throwing the air up or down, or stopping it when desired. You will see by the above cut that it is particularly adapted to a soda water counter, where the base is used for the double purpose of a glass holder and fan, and you will find it invaluable in such a position, as it positively keeps the counter free from flies. We also make this *Column plain*, so that in cases where the ceiling is very high it can be placed upon the floor, the shaft and driving mechanism being in the room below. We also make it plain for lunch counter when desired.

SEND FOR ESTIMATE.

Our Fans Will Keep Out Flies.

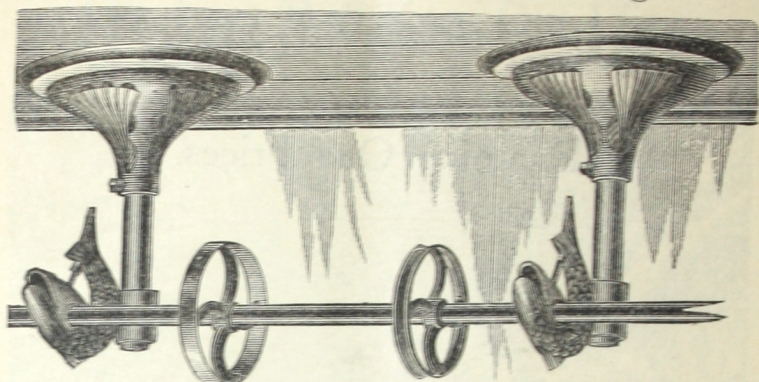


Showing Electricier Fan in front of Bar, and Plain Fan over Tables, driven tandem.

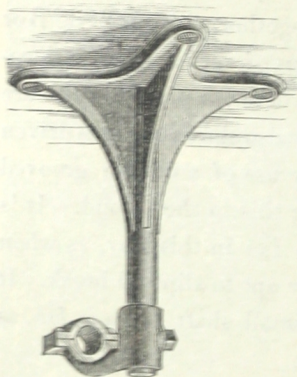
Examine Our Prices.

THE cut on the opposite page will give you a good idea of the way our fancy Electric Light Fan, together with our Style B or C, can be used, where parties are desirous of very handsome decoration in front of the store or bar, and where our plainer styles are used for other parts of the room. This also shows the fans driven tandem, or one from the other, by the use of a double grooved pulley on the first fan and belting from this to the second. It is never advisable to drive more than one fan in this way, as when three or four are driven the belt is very apt to slip and break. It is always best to belt direct from a small shaft to each fan, as then you avoid all trouble of this kind.

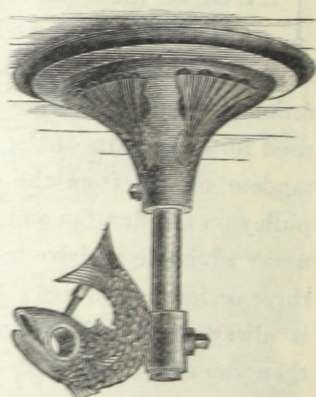
Our Hangers are Self-Oiling.



FANCY COUNTERSHAFT.



Common Shaft Hanger.



Our Patent Shaft Hanger.

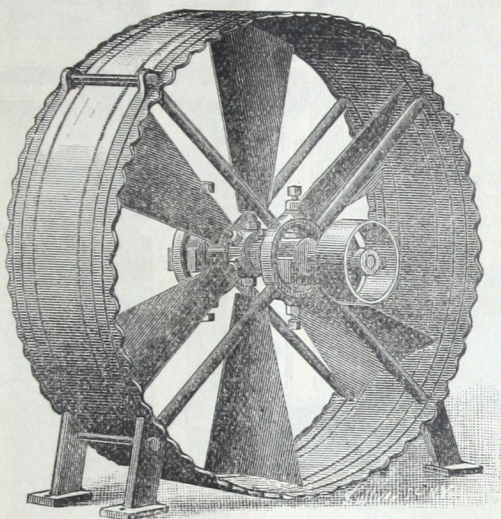
Patented Dec. 22, 1885.

We desire to call particular attention to our patent Fish Hanger, as shown in the above cut, for both as an ornament and a practical shaft hanger we claim is not surpassed. It takes the place of both an oiler and oil cup, thus avoiding all dripping of grease. As the oil is poured in the mouth of the fish it runs down the throat, and is carried from there by the tongue up over the shaft and back again to the throat. The shaft can also be removed at any time by merely loosening the set screw, as shown in the cut, which allows the top of the head to be removed. It is self-adjusting, and can be moved in any direction. We also show our plain shaft hanger and counter shaft, with the fish hangers, and we feel, in presenting these to the public, that they are equaled by none in the market.

NOTE PRICE LIST, PAGE 21.

Will Exhaust from 1,000 to 100,000
Cubic Feet of Air per Minute.

The "Wing Disc" Fan and its Application.

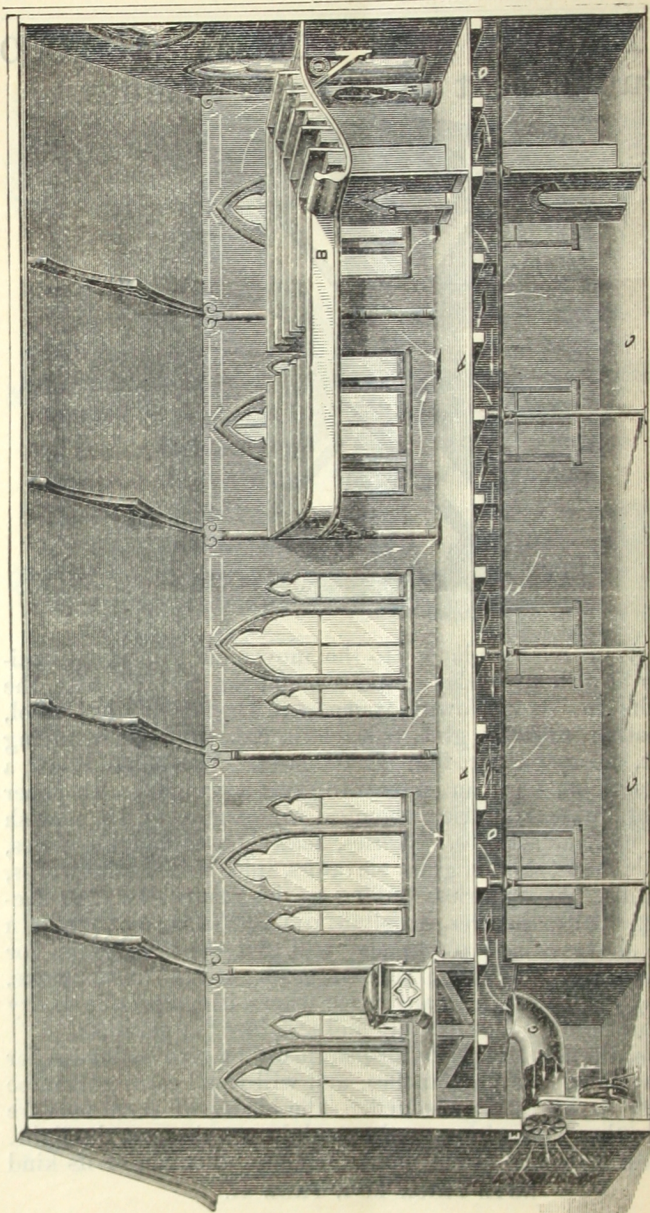


Manufactured for The Backus Water Motor Co.

This is especially adapted to the movement of large quantities of air at a small outlay of power, and can be used with the best results for the following purposes: Drying lumber, wool, cotton, leather, tobacco, glue, hair, cloth, &c., and for removing dust, heat, steam, vapor, foul air or gases. We name below a few places where they can be used to great advantage. In paper mills, print works, laundries, chemical works, glue works, varnish factories, carpet factories, bakeries, malt houses and breweries, blacksmith shops, stables, grain elevators, spice mills, paint works, woolen mills, hat factories, buffing rooms, tanneries, shoe factories, large halls, theatres, hospitals, dining-rooms, &c., &c. In all of the above named places they will give the best results for drying, cooling, removing vapors, gases, steam, dust, smoke, ventilating, and, in fact, in any place where it is desirable to dry large quantities of goods quickly and at a low temperature.

We shall be pleased to furnish plans or give estimates for ventilating in any of its branches, and will in all cases guarantee the results to be as represented. The blades of these fans are adjustable, they run without noise, and do not obstruct the light. It takes less power to drive them than any other fan of its kind made.

NOTE PRICE LIST, PAGE 21.



Invaluable for Ventilating Public Buildings.

The Wing Fan Requires but Little Power to Drive It.

The cut on opposite page will show one of our methods used in ventilating churches, large office buildings, schools, theatres, public halls, factories, &c.

This plan can be applied to buildings of any size, and is not limited by the number of stories to be ventilated. It will be found to be a great help in properly heating, as it creates a thorough distribution of the air in every part of the building.

Architects and builders will find this plan of great service to them when proper ventilation is considered. We shall be pleased to furnish plans for ventilating in any of its branches by the use of this Disc Fan. Having had large experience in *church organ blowing*, we are prepared to furnish estimates for this kind of work, as well as ventilation, and by our automatic arrangement the same water motor can be used for driving both.

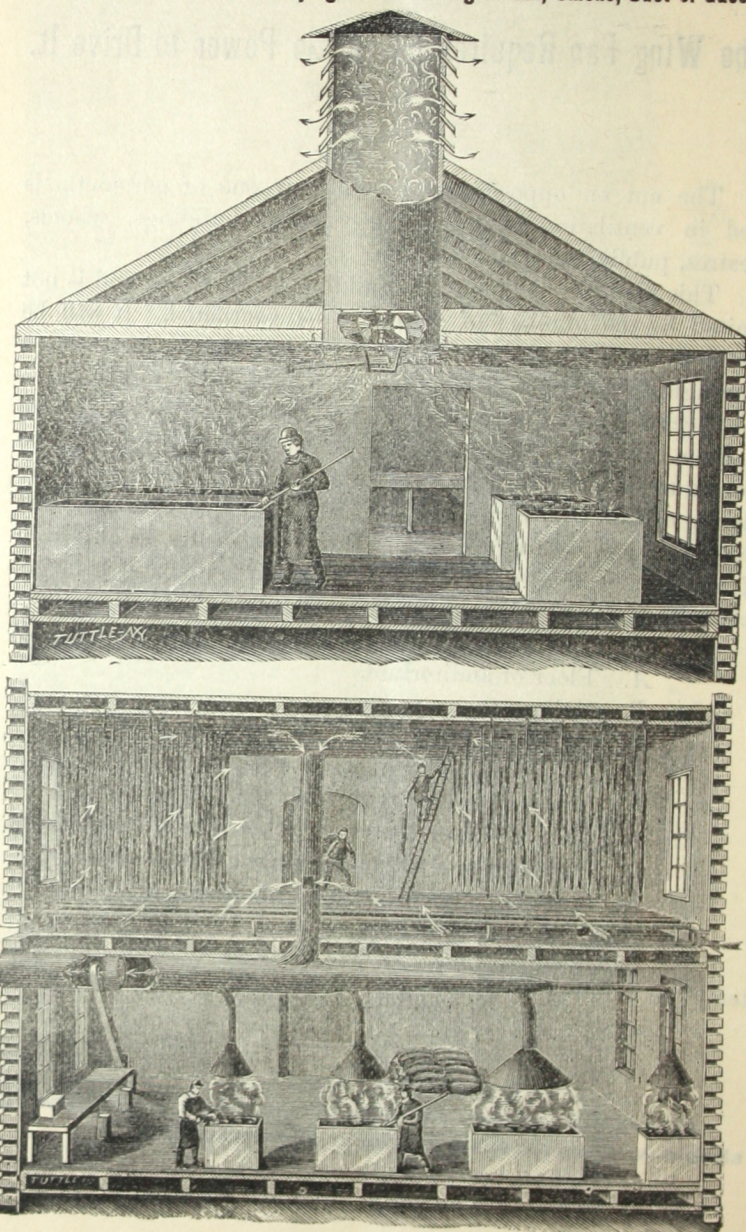
- A. Floor of auditorium.
- B. Gallery.
- C. Floor of lecture room or lower story.
- D. Reservoir, or air duct, between ceiling and floor.
- E. Wing Disc Fan exhausting the air.
- F. Backus Water Motor, or other power, driving fan.
- G. Pipe through which the air is exhausted.
- H. Flue to conduct foul air from gallery.

We solicit correspondence from architects and all who contemplate building or who desire perfect ventilation.

NOTE.

Parties desiring any information on church organ blowing should write us for special circular on this subject.

The Only Perfect Method of Drying and Removing Steam, Smoke, Dust or Gases.



We Solicit Correspondence.

The top cut on opposite page shows one method of applying our Disc Fan when used without piping direct to the point where the steam, gas, dust, or vapor is created, as by placing the fan in the ceiling, or other convenient point in a pipe or flue leading to the outside of the building, the gases, steam or vapor as they arise are quickly drawn upward and thrown or forced to the outside of the building, and thus keep the air in the room perfectly pure and clear.

In the lower cut it shows one method of piping a room, which is of advantage in many cases, and where you will see we bring the exhaust pipes over each point where the steam vapor or gases originate, and by means of a hood they are collected the instant they rise, and are carried off, thus preventing them from spreading throughout the room or building. This cut also shows a system of drying, and by the arrangement you will see the air is brought in and carried over steam pipes, thus being heated and then carried through the goods that are to be dried, and with the same fan drawn out through a pipe, (or a separate fan may be used). The Disc Fan will be found invaluable when used as shown in these cuts, in bleacheries, paper mills, planking rooms in hat factories, dyeing establishments, varnish factories, soap manufactories, malt houses and breweries, laundries, tanneries, glue works, chemical works, and also for removing gases, dust, smoke, vapors, and in fact any places where a quick change of air is necessary.

NOTE PRICE LIST, PAGE 21.

General Instructions.

In putting up our fans, either on the ceiling or our Column Fans on floor or counter, the bottom of the Ceiling Fan should be 6 ft. 6 in. to 7 ft. from the floor, and the top of the Column Fan should be 7 ft. from the floor. This can always be accomplished, no matter what the height of room, by the use of either our ceiling hanger or our Column Fans.

In writing for estimate for fans give the dimensions of the room or rooms where they are to be placed (height, width and length), and if you already have power, send sketch showing where it is located, together with the dimensions of the room; state also *on which style* you desire a figure. All of our fan hangers, as well as the shaft hangers, are put up with but one lag screw, which holds the base and hanger firmly in position, and as this screw is directly in the centre there are no bolts visible, which is always the case with other makes. Our hangers do not disfigure the ceiling in any way.

In setting the fan blades it is necessary that *both blades* should be on the same angle, which, when right, will bring the upper and outer edge of the blade from 2 in. to 3 in. higher than the lower edge.

The shaft hangers should be about 6 ft. apart, and by the use of a slender awl you can easily find the beam by probing through the plaster, into which the hanger can be screwed. Where a room is very wide and requires two lines of fans, the shaft should run down the centre and belt to the fans on either side, or where the room is narrow, the shaft can be run along one side. Always place the driving pulley on shaft as near the hanger as possible, to prevent any springing of the shaft.

The fans should be driven at a speed of from 140 to 150 per minute, and the blades should always be set so that the air is thrown just below the globe of a chandelier, in which case the centre of the blade should be in line with the centre of the gas globe. See that the fan shaft is perfectly true, which can be done with a spirit level. Do not have your belts too tight, just enough to prevent slipping. In placing the shaft and fan hangers in position, see that all the set screws and bolts are *properly tightened*, so that there can be no danger of anything giving away or falling. When put up by ourselves we always guarantee perfect safety, and if our instructions are followed you need have no fear from this source.

Power for Driving Fans.

What shall it be—Water, Gas, Electricity or Steam?

The Backus Water Motor the Cheapest Power Known.

The question of a power to drive our fans need not be considered as an objection, when any of the above can be utilized with so little expense and outlay.

The city in which the fans are to be used decides this to a great extent, as in some places a gas engine would be preferable, and in some a water motor, others steam, or an electric motor. We shall be pleased to advise fully upon this subject, as being in the power business for the past ten years, we are enabled to give the lowest figure on any of the above, and will always give our opinion for the benefit of our customers as to the most advisable. Being manufacturers of the celebrated BACKUS WATER MOTOR, we would highly recommend its use where the water pressure is ample, and we give below the price of our Motors, together with the water pressure, and the size required to drive a certain number of fans.

WATER MOTOR PRICE LIST,

AND PRESSURE REQUIRED TO DRIVE A GIVEN NUMBER OF FANS.

No. of Fans.	Water Pressure.	Size of Motor.	Price.
1.....	20 to 50 lbs.	11 inch.	\$22 50
2.....	20 to 50 "	12 "	40 00
3.....	40 "	17 "	65 00
3.....	20 "	22 "	85 00
5.....	50 "	17 "	65 00
5.....	30 "	22 "	85 00
6.....	40 "	22 "	85 00
6.....	20 "	30 "	140 00
10.....	50 "	22 "	85 00
10.....	30 "	30 "	140 00

NOTE.

Parties desiring a power for other purposes, will do well to write for special circular of Water Motors, as we furnish from 1-8 to 10 horse power.

Send for Circular on Water Motors.

PRICE LIST

OF OUR

CEILING FANS COMPLETE.

STYLES

A. B. and C.

Ceiling.	Style A.	Style B, or Mikado.	Style C
7 feet	\$6 00	\$9 00	\$15 00
7 " 6 inches	6 75	10 00	16 00
8 "	7 25	12 50	17 50
8 " 6 "	8 25	15 00	18 50
9 "	9 00	16 00	19 50
9 " 6 "	9 75	16 50	20 50
10 "	10 50	17 00	21 50
10 " 6 "	11 25	17 50	22 50
11 "	12 00	18 00	23 50
11 " 6 "	12 75	18 50	24 50
12 "	13 50	19 00	25 50
12 " 6 "	14 00	19 50	26 50
13 "	14 50	20 00	27 50
13 " 6 "	15 00	20 50	28 50
14 "	15 50	21 00	29 50
14 " 6 "	15 75	21 50	30 50
15 "	16 00	22 00	31 50
15 " 6 "	16 50	22 50	32 50
16 "	17 00	23 00	33 50

NOTE.

The above prices on Style C do not include the incandescent lamps or globes, which we can furnish per set for from \$5 to \$15.

COLUMN FANS.

For Counter, Plain, without Castors	\$25 00 to \$35 00
" Floor, "	30 00 to 40 00
" Counter, " with silver-plated Castors and Bottles ..	35 00 to 50 00
" " " " " " " for Soda Glasses ..	35 00 to 50 00

SPECIAL DESIGNS MADE TO ORDER.

Prices Furnished on Application.

OF

USED IN CONNECTION WITH OUR FANS.

PRICE LIST OF DISC FANS.

Prices for extra sizes given on application.
Fans arranged to run horizontally, \$10.00 extra.

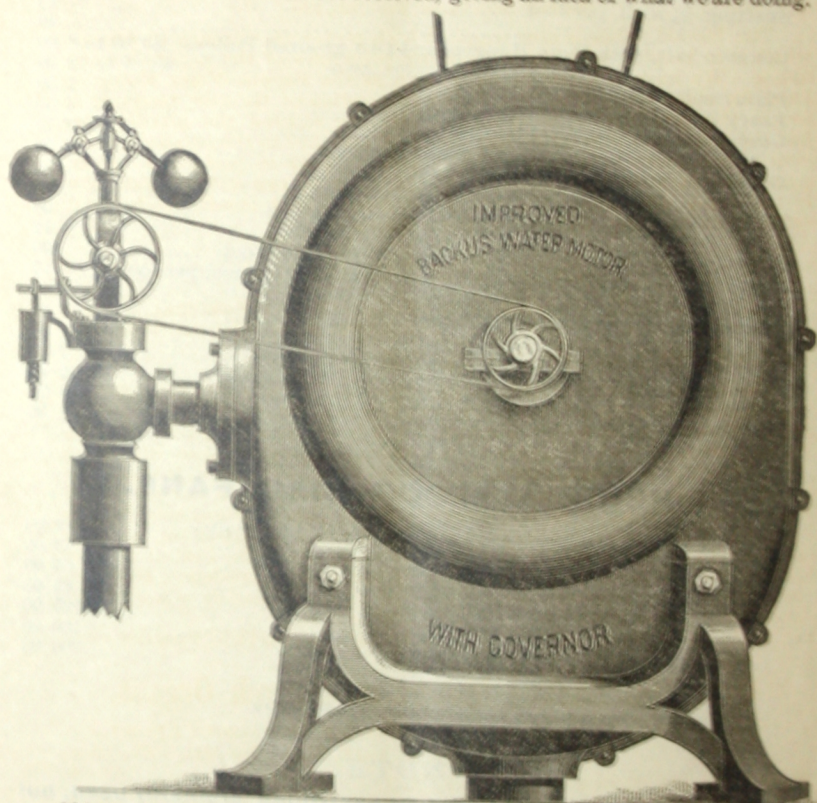
The above articles include everything ordinarily used, but we shall be pleased to furnish any article not included in the above List, at bottom prices.

The Backus Water Motor in Use the World Over.

POWER GIVEN FROM 1-8 TO 10 H. P.

Adapted for driving all kinds of light machinery, such as Sewing Machines, Lathes, Coffee and Drug Mills, Church Organs, Printing Presses, Coffee Roasters, Ice Cream Freezers, Grain and Freight Elevators, Circular Saws, Meat Choppers, Revolving Signs, Dentists' Lathes and Engines, Exhaust Fans, Blowers, and all kinds of machinery requiring a light power. Our Motors make no dirt, cause no noise, need no attention, cannot get out of order, will not freeze, do not increase the insurance, are always ready for use, and will last a lifetime.

Parties desiring a power for driving light machinery of any kind, will find it to their advantage to write to us for a special circular on the Backus Water Motor, for our space being limited, we only append a few of the hundreds of testimonials we have received, giving an idea of what we are doing.



We make a Specialty of Church Organ Blowing.

See Our Price List on Page 24.

TESTIMONIALS.

NOTE.

The following Testimonials will give some idea of what is thought of the Backus Water Motor in a few of the hundreds of places where it is in use.

Printing Presses.

What the Herald Printing Company, of Wooster, O., say.

[Extract from Paper, Feb. 13th, 1886.]

The Herald Office is now supplied with power for running its presses, which is in keeping with the well-known principles of the paper—a water motor. We have had the motor known as the Backus Water Motor, on hand for some time, (until since the completion of the new reservoir to secure the privilege of using water). Having secured the privilege, we had the motor put in position last week and attached to the presses. It is a very simple piece of machinery, but does its work to perfection. It requires comparatively a small quantity of water to run it, the nozzle now in use being only about the size of a common lead pencil. It is force, rather than quantity, that moves the machinery.

Eight Years in Use.

OFFICE OF THE OLD COLONY MEMORIAL, }
PLYMOUTH, Mass., Oct. 1st, 1885. }

BACKUS WATER MOTOR Co., Newark, N. J.

Gentlemen: You can always rely upon us for a recommendation of your motor. We ran a 22-inch for some five years, and then exchanged it for a 45-inch double motor, displacing a 6 h. p. steam engine. We have had no difficulty with it, and with but 35 lbs. of water pressure it is doing all the work of our office, running a modern 6½ news and job Hoe press at about 14 impressions per minute, and other presses can be carried at the same time. We know of no power we would care to substitute for the "Backus Motor," as it is always in readiness, needs no attention, does our work well and economically, and enables us to escape the heat of a boiler during the hot weather. The motor is our only dependence, and with eight years of experience, we recommend it most heartily where light, economical power is wanted.

Very truly yours,
Old Colony Memorial.

AVERY & DOTEN, Proprietors.

Over 150 Backus Motors on Church Organs.

ST. MARK'S P. E. CHURCH, 262 GROVE STREET, }
JERSEY CITY, N. J., Feb. 1st, 1886. }

BACKUS WATER MOTOR Co., Newark, N. J.

Dear Sirs: I have much pleasure in forwarding you an installment of (\$100) one hundred dollars.

The motor gives great satisfaction, and is all that you represented it to be.

Truly yours,

F. E. MORTIMER.

9 to 10 Horse Power.

LITTLETON, N. H., June 11th, 1885.

BACKUS WATER MOTOR Co., Newark, N. J.

Gentlemen: We are very much pleased with the 45-inch motor you sold us. With a head of 257 feet, it gives us from 9 to 10 horse power. Very truly, HENRY L. TILTON.

For Coffee Mills and Roasters.

ANSONIA, Conn., Sept. 4th, 1885.

BACKUS WATER MOTOR Co., Newark, N. J.

Gentlemen: I have been using a 17-inch Backus Motor for about *eight years*, and am well pleased with it. If the grocers knew what a saving of labor it is, I think they would use them more. Yours truly, HOBERT SPERRY.

Freeze Your Ice Cream with a Backus Motor.

BALTIMORE, Md., August 26th, 1885.

BACKUS WATER MOTOR Co.

Gentlemen: Your letter of inquiry came to hand, and I am pleased to say the 30-inch double motor purchased of you in January, 1882, working with a $\frac{1}{4}$ inch and 5-16-inch jets, does all I need for running my Seaman's 40-qt. ice cream freezer. I have it running all the year round, summer and winter, and so far the motor gives entire satisfaction, and I would not change for steam power. With great pleasure you may use my name at any time, in referring to your motor, which has not cost me one cent for repairs since I started.


Very truly, HENRY MURR, 177 South Charles street.

Butchers Use the Backus Motor for Driving Fans and Sausage Choppers.

JERSEY CITY, March 4th, 1886.

BACKUS WATER MOTOR Co., Newark, N. J.

Gentlemen: After four years of almost constant use, we can cheerfully say we are fully satisfied with the work your motor has done. We run two large sausage choppers (holding each 75 lbs of meat) and your ventilating fans in our retail department with this motor to our perfect satisfaction. Respectfully yours, CURTIS & LAPPIN, General Wholesale and Retail Beef and Provision Dealers.

 If you desire a power for driving any kind of light machinery, write for special circular of the Backus Water Motor.

Price List.—Power given from 1-8 to 10 H. P.

7-inch Motor, Complete.....	\$15 00
11 " " " Will run Sewing Machine 30 pounds pressure.....	22 50
12 " " " Will run Sewing Machine 15 pounds pressure.....	40 00
17 " " " with stand.....	65 00
22 " " " ".....	85 00
30 " " [Single] Complete.....	140 00
30 " " [Double] ".....	200 00
45 " " " ".....	300 00
7 " Dental Motor, Complete, with stand.....	30 00
11 " " " ".....	40 00
11 " Motor, with Fleetwood Scroll Saw attached.....	35 00
17 " { Motor, with Coffee Mill, $\frac{3}{4}$ lb. per minute, {	80 00
{ No. 6 Enterprise, and 15-inch flywheels, {	
22 " { No. 18 Enterprise, and 31-inch flywheels.....	150 00
30 " { Motor, with Coffee Mill, 3 lb. per minute, {	250 00
{ No. 20 Enterprise, {	
Automatic Ball Governor, for 22, 30 and 45-inch Motors, price.....	35 00

These Ball Governors are not required, except where very fine and particular work is done.

NET CASH.

Couplings and Pulley included for each size.

All goods delivered to Express Co. or on Cars in Newark, N. J.

